DOCUMENT RESUME

ED 153 644 IR 006 013

AUTHOR Romano, Francis A., Jr.
TITLE A Study of the Preparation of New Jersey Public Secondary School Teachers in the Area of Educational Media and its Effects on Their Utilization Practices and Views Regarding Preparation in the Field.
PUB DATE 77
NOTE 144p.; Ph.D. Dissertation, Nova University

EDRS PRICE MF-$0.83 HC-$7.35 Plus Postage.
DESCRIPTORS Audiovisual Aids; *Comparative Analysis; Curriculum Planning; Higher Education; *Instructional Materials; *Instructional Media; Media Selection; *Secondary School Teachers; State Surveys; *Teacher Education

ABSTRACT

This study attempted to determine if secondary school teachers who had had a formal course in educational media as part of their professional training (1) utilize it more frequently than do colleagues without such a course; (2) view the adequacy of their professional preparation in educational media differently than colleagues without such training; (3) view the importance of educational media competencies differently than colleagues without such training; and (4) hold different views concerning academic approaches for the development of these competencies in secondary school teachers than colleagues who had not had such a course. Questionnaire data were gathered from 569 public secondary school teachers through a stratified random sampling of all New Jersey counties. It was found that those who had had a formal course in educational media as part of their professional training utilize educational media more frequently and rated the adequacy of their professional preparation in this area higher than did colleagues who had not had such a course. Educational media competencies for secondary school teachers were considered important by both those teachers who had had such a course and by those who had not. Both groups viewed a 3-credit course in educational media as the best academic approach for developing these competencies in future secondary school teachers. Based on the findings, recommendations are made for the implementation of such instruction at the state university and local secondary school levels. (IAG)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED153644

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A STUDY OF THE PREPARATION OF NEW JERSEY PUBLIC SECONDARY SCHOOL TEACHERS IN THE AREA OF EDUCATIONAL MEDIA AND ITS EFFECTS ON THEIR UTILIZATION PRACTICES AND VIEWS REGARDING PREPARATION IN THE FIELD

FRANCIS A. ROMANO, JR.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Francis A. Romano

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

A MAJOR APPLIED RESEARCH PROJECT
PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF EDUCATION

NOVA UNIVERSITY

1977

IR006013

ACKNOWLEDGEMENT

Gratitude is extended to Dr. Louis Bender of Florida State University for his patient criticism, guidance and encouragement; to Dr. Eugene DuBois of Nova University and Dr. Richard Warner of Trenton State College for their continual evaluation and direction; and to Professor John Baldwin of Trenton State College for his suggestions and assistance regarding the procedures and methodology involved in this study.

Abstract of a Major Applied Research Project Presented to Nova University in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

A STUDY OF THE PREPARATION OF NEW JERSEY PUBLIC SECONDARY SCHOOL TEACHERS IN THE AREA OF EDUCATIONAL MEDIA AND ITS EFFECTS ON THEIR UTILIZATION PRACTICES AND VIEWS REGARDING PREPARATION IN THE FIELD

By

Francis A. Romano, Jr.

February, 1977

The State of New Jersey has no certification requirement for a formal course of study in the area of educational media for secondary school teachers. As a result, the preparation of secondary school teachers in the area of educational media may be minimal since such preparation is left to the discretion of the individual institutions of higher education that have teacher preparation programs. Trenton State College is one institution of higher education in New Jersey that has no curriculum policy structured toward the development of competencies in educational media for students majoring in any area of secondary education. In order to obtain evidence that can be used to improve the preparation of secondary students in educational media at Trenton State College, this study attempted to: (1) determine if New Jersey secondary school teachers who had had a formal course in educational

media as part of their professional training utilize educational media more frequently than their colleagues who had not had such a course as part of their training, (2) determine in New Jersey secondary school teachers who had had a formal course in educational media as part of their professional training view the adequacy of their professional preparation in educational media differently than their colleagues who had not had such a course as part of their training, (3) determine if New Jersey secondary school teachers who had had a formal course in educational media as part of their professional training view the importance of educational media competencies for secondary school teachers differently than their colleagues who had not had such a course as part of their training, and (4) determine if New Jersey secondary school teachers who had had a formal course in educational media as part of their professional training hold different views concerning academic approaches for the development of educational media competencies in secondary school teachers than their colleagues who had not had such a course as part of their training.

Four hypotheses were formulated from these attempted determinations and they were tested according to two independent variables and four dependent variables. The independent variables were: (1) a formal course in educational media as part of the teachers' professional preparation, and (2) no formal course in educational media as part of the teachers' professional preparation. The dependent variables were: (1) the teachers' frequency of educational media

utilization, (2) the teachers' views regarding the adequacy of their professional preparation in educational media, (3) the teachers' views regarding the importance of educational media competencies for secondary school teachers, and (4) the teachers' views regarding the academic approaches for the development of educational media competencies in future secondary school teachers.

A five-part questionnaire was used as the data gathering instrument and it was sent to 1115 public secondary school teachers who were selected through a stratified random sampling of public secondary school teachers throughout the 21 counties of New Jersey. From the sample, data were gathered from 569 public secondary school teachers which represented a 51 percent return of the questionnaire.

An analysis of the data through a t-Test and three Chi Square Tests resulted in the following findings:

A. A significant difference existed at the .001 level regarding the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media and those teachers who had not had such a course. The teachers who had had a formal course in educational media utilized educational media at a significantly higher rate than those teachers who had not had such a course.

B. A significant difference existed at the .001 level regarding the adequacy of professional preparation views between secondary school teachers who had had a formal

course in educational media as part of their professional training and those teachers who had not had such a course. The teachers who had had a formal course in educational media rated the adequacy of their professional preparation in educational media significantly higher than their colleagues who had not had such a course

C. No significant difference existed between the secondary school teachers who had had a formal course in educational media and those teachers who had not had such a course regarding their views of the importance of educational media competencies for secondary school teachers. A large majority of the teachers of both groups rated the educational media competencies for secondary school teachers as having great importance and very great importance for secondary school teachers.

D. No significant difference existed between the secondary school teachers who had had a formal course in educational media and those teachers who had not had such a course regarding their views of academic approaches for the development of educational media competencies in future secondary school teachers. From eight academic approaches, the majority of the secondary school teachers of both groups combined viewed a 3 credit course in educational media as their choice for an academic approach to develop educational media competencies in future secondary school teachers.

The conclusions drawn from the results of the study

were:

A. Secondary school teachers who had had a formal course in educational media as part ot their professional training: (1) utilize educational media more frequently than their colleagues who had not had such a course, and (2) view their professional preparation in the area of educational media with greater adequacy than their colleagues who had not had such a course.

B. Educational media competencies for secondary school teachers are considered to be important for secondary school teachers by secondary school teachers who had had a formal course in educational media and by secondary school teachers who had not had such a course.

C. Secondary school teachers who had had a formal course in educational media combined with their colleagues who had not had such a course view a 3 credit course in educational media as the best academic approach for developing educational media competencies in future secondary school teachers.

Based on the findings and conclusions of the study, the following recommendations were proposed:

A. That Trenton State College and other institutions of higher education in New Jersey that offer teacher preparation programs in secondary education provide their students with formal preservice preparation in educational media and that a 3 credit course in educational media be employed as the academic approach

for such preparation.

B. That the New Jersey State Department of Higher Education and its Division of Teacher Education and Certification include a formal course in educational media as part of the certification requirements for secondary school teachers.

C. That secondary school teachers in the State of New Jersey who have not had a course in educational media take a formal course in the field as part of their professional enrichment and continuing education.

D. That the principals of secondary schools in the State of New Jersey provide enrichment workshops in educational media for their teachers on an annual basis.

TABLE OF CONTENTS

Page

LIST OF TABLES xi

Chapter

1. INTRODUCTION 1

BACKGROUND AND STATEMENT OF THE PROBLEM . . . 1

MAJOR ISSUES, RESEARCH QUESTIONS AND HYPOTHESES 8

DEFINITION OF TERMS 13

BASIC ASSUMPTIONS AND LIMITATIONS 15

2. REVIEW OF THE LITERATURE 17

3. PROCEDURES AND METHODOLOGY 42

DATA COLLECTION INSTRUMENT 42

SAMPLING TECHNIQUE 42

VARIABLES AND STATISTICAL TREATMENT 52

INDEPENDENT VARIABLES 52

DEPENDENT VARIABLES 53

4. RESULTS 55

DATA RESULTING FROM THE STUDY 55

ANALYSIS OF THE DATA 57

FINDINGS 79

CONCLUSIONS 84

Chapter Page

5. SUMMARY, IMPLICATIONS AND RECOMMENDATIONS 86

SUMMARY 86

IMPLICATIONS 89

RECOMMENDATIONS 90

BIBLIOGRAPHY 92

APPENDIX A. LETTER TO THE SECONDARY SCHOOL PRINCIPALS FROM THE INVESTIGATOR REQUESTING ASSISTANCE IN THE STUDY 96

APPENDIX B. LETTER OF ENDORSEMENT FOR THE STUDY FROM DR. CLAYTON BROWER, PRESIDENT OF TRENTON STATE COLLEGE TO THE SECONDARY SCHOOL PRINCIPALS 97

APPENDIX C. LETTER TO THE SECONDARY SCHOOL TEACHERS FROM THE INVESTIGATOR REQUESTING ASSISTANCE IN THE STUDY 98

APPENDIX D. EDUCATIONAL MEDIA SURVEY QUESTIONNAIRE . . . 99

LIST OF TABLES

Table		Page
1.	SECONDARY EDUCATION STUDENTS ENROLLED IN AN EDUCATIONAL MEDIA COURSE DURING THE FALL SEMESTER OF 1975 AT TRENTON STATE COLLEGE	3
2.	THE SECONDARY SCHOOL TEACHER SAMPLE BY COUNTY, SCHOOL DISTRICT, SECONDARY SCHOOL AND QUESTIONNAIRE RETURNS	45
3.	DISTRIBUTION OF SECONDARY SCHOOL TEACHER RESPONDENTS BY GROUP, MEAN AGE, MEAN YEARS TEACHING AND SEX	56
4.	DISTRIBUTION OF SECONDARY SCHOOL TEACHER GROUP RESPONDENTS BY SUBJECT AREA TAUGHT	58
5.	EDUCATIONAL MEDIA UTILIZATION FREQUENCIES DATA FOR THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP"	59
6.	COMPARISON OF MEAN SCORES BETWEEN THE SECONDARY SCHOOL TEACHERS OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING EDUCATIONAL MEDIA UTILIZATION FREQUENCIES	63
7.	OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "KNOWLEDGE OF A WIDE VARIETY OF INSTRUCTIONAL MEDIA AVAILABLE IN THE TEACHER'S CURRICULAR SPECIALIZATION"	65
8.	OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO SELECT THE MEDIA THAT POSSESS THE POTENTIAL TO MEET THE DESIRED TEACHER-STUDENT OBJECTIVES"	66

Table | Page

9. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO PREPARE A VARIETY OF INSTRUCTIONAL MATERIALS FOR USE IN THE TEACHING-LEARNING PROCESS". 67

10. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO INTEGRATE MEDIA WITH THE SUBJECT CONTENT". 68

11. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "KNOWLEDGE OF A VARIETY OF MEDIA UTILIZATION PRACTICES". 69

12. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO OPERATE THE COMMON EDUCATIONAL MEDIA EQUIPMENT". 70

13. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO EVALUATE THE EFFECTIVENESS OF EDUCATIONAL MEDIA IN TERMS OF THE TEACHER'S OBJECTIVES" 71

14. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "KNOWLEDGE OF A WIDE VARIETY OF INSTRUCTIONAL MEDIA AVAILABLE IN THE TEACHER'S CURRICULAR SPECIALIZATION" 72

Table Page

15. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO SELECT THE MEDIA THAT POSSESS THE POTENTIAL TO MEET THE DESIRED TEACHER-STUDENT OBJECTIVES". 73

16. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO PREPARE A VARIETY OF INSTRUCTIONAL MATERIALS FOR USE IN THE TEACHING-LEARNING PROCESS" 74

17. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP"CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY REGARDING "ABILITY TO INTEGRATE MEDIA WITH THE SUBJECT CONTENT". . . 75

18. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "KNOWLEDGE OF A VARIETY OF MEDIA UTILIZATION PRACTICES" 76

19. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO OPERATE THE COMMON EDUCATIONAL MEDIA EQUIPMENT" 77

20. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO EVALUATE THE EFFECTIVENESS OF EDUCATIONAL MEDIA IN TERMS OF THE TEACHER'S OBJECTIVES". 78

Table Page

21. OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF ACADEMIC APPROACHES FOR THE DEVELOPMENT OF EDUCATIONAL MEDIA COMPETENCIES IN FUTURE SECONDARY SCHOOL TEACHERS 80

Chapter 1

INTRODUCTION

Background and Statement of the Problem

The State of New Jersey has no certification requirement for a formal course of study in the area of educational media for secondary school teachers. As a result, the preparation of secondary school teachers in the area of educational media competencies may be minimal since such preparation is left to the discretion of the individual institutions of higher education that have teacher preparation programs. Therefore, the preparation in educational media received by prospective secondary school teachers in the State of New Jersey depends largely upon the educational philosophy of the faculty members that have academic control of these students in the various institutions of higher education in the State.

Trenton State College is one institution of higher education in the State of New Jersey that has no curriculum policy structured toward the development of competencies in educational media for students majoring in any area of secondary education. The absence of such a policy is due primarily to the fact that there is no Department of Secondary Education or other single educational organization within the college that has primary responsibility for and academic

control of the students majoring in secondary education. Therefore, the secondary education students are controlled academically by the individual academic departments in which their discipline specialty lies.

Unlike the elementary education students who are required to take an introductory course in educational media by the Elementary Education Department of the college, the secondary education students receive only a brief exposure to competencies in educational media. This exposure occurs in the form of four contact hours of lecture and demonstrations in the junior year student teaching program. Although some secondary education students elect to take an introductory course in educational media sometime during their program, many students do not elect such a course and for the most part, they are not advised to do so. Registration data for the Fall semester of 1975 indicate that only a small number (3.3 percent) of all secondary education students took a course in educational media during that semester.[1] Table 1 presents this data and clearly shows the number of secondary education students in each department that took an educational media course during that semester. For many years, two basic reasons have been given by faculty members for not advising their secondary education students to take an elective course in educational media. These reasons

---

[1] Report of the President's Ad Hoc Committee on Program Priorities and Instructional Load by Level, Trenton State College, Trenton, New Jersey, 1975.

TABLE 1

SECONDARY EDUCATION STUDENTS ENROLLED IN AN EDUCATIONAL MEDIA COURSE DURING THE FALL SEMESTER OF 1975 AT TRENTON STATE COLLEGE

DEPARTMENT	STUDENTS IN MAJOR	STUDENTS IN MEDIA COURSE	
	N	N	%
ART	107	7	6.5
BIOLOGY	34	0	0
BUSINESS	188	2	1.0
CHEMISTRY	15	0	0
ENGLISH	102	13	12.7
HEALTH AND PHYSICAL EDUCATION	527	3	.6
HISTORY	121	3	2.4
INDUSTRIAL EDUCATION	58	14	24.0
MATHEMATICS	93	6	6.4
MUSIC	184	1	.5
PHYSICS	6	0	0
POLITICAL SCIENCE	18	0	0
SOCIOLOGY	36	0	0
TOTAL	1489	49	3.3

include: (1) an additional course in the student's discipline or in a related subject matter area is preferred over a course in educational media, and (2) the secondary education students can get the educational media experiences needed for teaching through an occasional lecture or demonstration in other methods courses or through an educational media workshop presented for two or four hours in the junior or senior year student teaching program.

The educational media competencies necessary for any first year teacher are far more complex and comprehensive than that which can be covered through a brief experience in a workshop limited to two or four hours of contact time. The secondary education students need to receive the same experiences as the elementary education students. This includes "hands-on" experiences with educational media and equipment, and involvement with the total scope of competencies that include production, selection, utilization and evaluation of educational media for teaching. This statement is supported by Standard 1.4 of the National Council for Accreditation of Teacher Education Standards which states:

> "Modern media and materials are essential elements in the modern communication system of contemporary society. For this reason, teachers need to understand the technologies that make such media and materials usable in their teaching and need to possess skills in using them."[2]

---

[2] Standards for Accreditation of Teacher Education, National Council for Accreditation of Teacher Education, Washington, D. C., (1972), 8.

This standard reflects the Basic Guidelines for Media and Technology in Teacher Education which were prepared by the Association for Educational Communications and Technology in an effort to amplify the standards for the accreditation of teacher education.[3, 4] An examination of these guidelines indicates clearly that the scope of media competencies for teachers cannot be developed incidentally through brief workshop experiences of two or four contact hours.

In reviewing these guidelines for teacher preparation, Mars and Bergeson stated that the study of basic communication skills in many media should be part of every teacher's foundational preparation in college. More specifically, appropriate preparation in understanding, selecting, producing, and using these multiple communication media in teaching and learning should be part of the professional preparation of teachers. And the would-be teacher should have the opportunity to observe and use these communication skills properly in both controlled circumstances and in supervised real situations.[5]

---

[3] Basic Guidelines for Media and Technology in Teacher Education, Association for Educational Communications and Technology, Washington, D. C., (1971), 1-12.

[4] Recommended Standards for Teacher Education, The American Association of Colleges for Teacher Education, Washington, D. C., (1970), 1-22.

[5] Walter J. Mars and Clarence O. Bergeson, "AECT Guidelines and Teacher Education," Audiovisual Instruction, XV (November, 1970), 30-31.

In an effort to improve the situation at Trenton State College, Romano and Spiecker, in 1974, conducted a study of 324 New Jersey secondary school principals and 220 faculty at Trenton State College in order to determine their views concerning the importance of educational media competencies for future secondary school teachers. A questionnaire requested the subjects to rate, on a five-point scale, certain educational media competencies according to their importance for secondary school teachers. The competencies included knowledge of a wide variety of instructional media, ability to design and produce a variety of materials, ability to integrate media with subject content, ability to operate common media equipment, and ability to evaluate the effectiveness of media. The subjects were also asked to choose from eight academic approaches the best approach for the development of the above competencies in secondary school teachers. The academic approaches included three introductory courses of varying credit values; the integration of competencies with education methods courses, specialty courses and field experiences; and the development of competencies through self-instructional programs or inservice programs. An analysis of the responses from a 68 percent return from the principals and a 35 percent return from the college faculty revealed a significant difference between the two groups on three of the media competencies. However, there was no significant difference between the groups on the importance of the competencies overall. Both groups rated

the media competencies as having "great importance" for prospective secondary school teachers. In addition, a significant difference existed between the choices of an academic approach for instilling the competencies. Although a greater percentage of each group chose the 3 credit course as the best academic approach, the percentage of principals favoring this approach was larger than the percentage of college faculty.[6]

The results of this study were used in an effort to change the existing curriculum policy at Trenton State College regarding the development of educational media competencies in future secondary school teachers. However, after several meetings with members of various organizations within the college and with the State Director of Teacher Education and Certification, it was decided that further study of the problem was needed. Therefore, the purposes of this study were to: (1) determine if New Jersey secondary school teachers who had had a formal course in educational media as part of their teacher training utilize educational media more frequently than their colleagues who had not had such a course as part of their teacher training, (2) determine if New Jersey secondary school teachers who had had a formal course in educational media as part of their teacher training view the adequacy of their professional preparation in edu-

---

[6]Francis A. Romano and Joseph Spiecker, "Media Competencies for Secondary School Teachers," Phi Delta Kappan, LVII (September, 1975), 54+.

cational media differently than their colleagues who had not had such a course as part of their teacher training, (3) determine if New Jersey secondary school teachers who had had a formal course in educational media as part of their teacher training view the importance of educational media competencies for secondary school teachers differently than their colleagues who had not had such a course as part of their teacher training, and (4) determine if New Jersey secondary school teachers who had had a formal course in educational media as part of their teacher training hold different views concerning academic approaches for the development of educational media competencies in secondary school teachers than their colleagues who had not had such a course as part of their teacher training.

It was expected that this study would produce results that could be used as a support base for providing the leverage necessary for affecting change with regard to the preparation of prospective secondary school teachers in educational media at Trenton State College and perhaps at other institutions of higher education in New Jersey. This would be possible because of past research, as presented in Chapter 2, that supports the theory that more effective teaching and learning occurs when educational media are employed within the teaching-learning process.

Major Issues, Research Questions and Hypotheses

The major issue pertaining to the problems that this study investigated concerns the preparation of prospective

secondary school teachers in the area of educational media at Trenton State College. The fact that these secondary education students do not receive a formal course in educational media as part of their teacher training program raises serious questions about their preparation to utilize educational media within the teaching-learning process. It is difficult for one to logically expect teachers who have not had formal training in the area of educational media to possess the competencies that are needed to utilize multimedia approaches in teaching. If a teacher does not possess the skill necessary to operate a filmstrip projector, then it is reasonable to expect that this teacher will not utilize filmstrips within his or her teaching. The same statement can be made about this type of teacher with reference to all other forms of educational media and their concomitant equipment. According to Streeter's research, there is a positive correlation between teachers' competencies in educational media and their frequency of educational media utilization.[7] Smith, in 1972, also found this to be the case. In his doctoral dissertation which examined the influence of a methods course on teacher utilization of audiovisual materials, it was found that the frequency with which beginning teachers used audiovisual materials, in social studies at least, was influenced by the educational media experiences

---

[7]Edward C. Streeter, "Teacher Competency and Classroom Use of Educational Media," Audiovisual Instruction, XIV (January, 1969), 60-62.

they had in college.[8] Similar results occurred in Brookens' study of educational media instruction of elementary teachers at Oklahoma State University based upon their competency and frequency in using educational media. It was found that educational media competence and media utilization by teachers with preservice training in educational media were shown to be significantly higher than that of teachers with no training in educational media.[9]

Based on the findings from such research and the related literature presented in Chapter 2, this study sought answers concerning the following questions regarding secondary school teachers in the State of New Jersey:

A. Is there a difference in the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course?

B. Is there a difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those

---

[8]William R. Smith, "Influence of a Methods Course on Teacher Use of Audiovisual Materials," Improving College and University Teaching, XX (1972), 145+.

[9]Lyle Kenneth Brookens. "An Exploratory Study of Media Instruction of Preservice and Inservice Teachers at Oklahoma State University Based on an Analysis of Their Media Competency and Utilization," (unpublished Doctoral dissertation, Oklahoma State University, 1970).

secondary school teachers who had not had such a course regarding the adequacy of their professional preparation in educational media?

C. Is there a difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the importance of educational media competencies for secondary school teachers?

D. Is there a difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding academic approaches for the development of educational media competencies in future secondary school teachers?

These questions required that the following null and alternative hypotheses be tested in this study:

H_o1: There is no significant difference in the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course.

H_a1: There is a significant difference in the frequency of educational media utilization between secondary school teachers who had had a formal course in educational

media as part of their professional training and those secondary school teachers who had not had such a course.

$H_o 2$: There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the adequacy of their professional preparation in educational media.

$H_a 2$: There is a significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the adequacy of their professional preparation in educational media.

$H_o 3$: There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the importance of educational media competencies for secondary school teachers.

$H_a 3$: There is a significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the importance of

educational media competencies for secondary school teachers.

H_o4: There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding academic approaches for the development of educational media competencies in future secondary school teachers.

H_a4: There is a significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding academic approaches for the development of educational media competencies in future secondary school teachers.

Definition of Terms

In order to communicate a clear understanding of this study, it was necessary to define all terms that could possibly be misinterpreted or misunderstood. Therefore, the significant terms used throughout this study are defined as follows:

A. Academic Approach: The curriculum design for teaching a particular subject area. At the college level, it is generally structured in accordance with the class contact time throughout a semester, e.g., a 3 credit course.

However, it may also include non-credit workshops.

B. Certification Requirement: Part of a state statute consisting of the requirements for the licensing of teachers.

C. Educational Media: The methods and materials of communication that are used for educational purposes, particularly in the process of teaching. Includes all forms of audio and visual materials and devices.

D. Educational Media Competencies: The abilities necessary to apply to practical situations the essential principles and techniques of educational media selection, production, utilization and evaluation.

E. Formal Course: Systematic presentation and study of a subject area under the direction of a teacher.

F. Formal Training: Training that involves formal courses that meet certain fixed standards as to content, type of instruction and length of instruction.

G. Secondary Education Student: Undergraduate student preparing for a career as a secondary school teacher.

H. Secondary School: The school division following the elementary school. It involves a variety of sequential combinations of grades from 7 through 12. The combinations may include grades 7 to 8, 7 to 9, 9 to 12, 10 to 12 or 7 to 12.

I. Secondary School Teacher: A professional person employed in an official capacity for the purpose of guiding and directing the academic learning experiences of students

in grades 7 through 12.

Basic Assumptions and Limitations

In a study of this type, it was necessary to make the following assumptions;

A. Since each secondary school included in this study has a media specialist as part of its professional staff, it was assumed that ample materials and equipment in the area of educational media were available and accessible to the teachers in each school for the purpose of utilization within the teaching-learning process. This assumption was based on the administrative duties of a media specialist which basically include the acquisition, maintenance and circulation of educational media and equipment for teacher utilization. If ample forms of educational media and equipment were not available in the schools, there would be no need for a media specialist.

B. The questionnaire that was employed for the collection of the data was valid because it was developed from questionnaires used in previous research studies and it was field tested with a sample of teachers.

Various circumstances and conditions within this study placed certain restrictions on that which the study attempted to achieve. Therefore, to provide further meaning to the study, these circumstances and conditions were identified through the limitations that follow:

A. The willingness of the secondary school principals to

cooperate in the distribution, collection and return of the questionnaires may have had an effect on the returns of the questionnaires.

B. The willingness of the teachers to spend the proper amount of time necessary to complete the questionnaire may have had an effect on the responses to the questionnaire.

C. The population was limited to public secondary school teachers in New Jersey and therefore, it did not include secondary school teachers from the 172 private and parochial schools in the State.

Chapter 2

REVIEW OF THE LITERATURE

In spite of the standards and guidelines for media and technology in teacher education that are maintained by the National Council for Accreditation of Teacher Education and the Association for Educational Communications and Technology as cited in Chapter 1, the problems of preparing teachers in the area of educational media continue to exist. McMahan indicated that surveys of the amount of emphasis given to the development of media competencies by colleges and universities show a shocking amount of lack of attention in this area,[10] and a survey made by the National Council for Accreditation of Teacher Education revealed that only 26 percent of its affiliates require audiovisual instruction.[11] The results of this were well expressed by Pula in his statement that many teachers entering the profession have had little or no training in the use of audiovisual materials and equipment. Although some experience might

---

[10]Marie McMahan, "A Challenge: The Systems Approach in the Development of Media Competencies," Audiovisual Instruction, XII (December, 1967), 1060-1063.

[11]W. F. Meierhenry, Editor, Media Competencies for Teachers, National Defense Act Title VII, United States Office of Education Contract No. 5-0730-2-12-6, Lincoln: University of Nebraska, 1966.

have been gained in the so-called "bloc programs" or cram programs given to prospective teachers, their knowledge of the basic operation of equipment is sketchy and the ability to integrate media into a cohesive and illuminating learning experience has not been developed. As a result, the new teacher comes into the system with enthusiasm but little knowledge of how equipment and materials should be used.[12]

Saettler found that a common problem with instructional media in some schools is that "someone orders a number of overhead projectors and dumps them into classrooms where no one knows what to do with them."[13] To date, the commercial market for instructional hardware and software has expanded to a degree that is seriously out of proportion to their intrinsic educational merit. The difficulty is that a rather sophisticated technology of machines has been developed while a technology of instruction hardly exists. What has happened, as a result, is that much of the modern hardware at the educator's disposal is beyond his knowledge or skill with regard to its implementation or function within his instructional context.[14]

Stanchfield has pointed out that most colleges and

---

[12]Fred John Pula, "Teacher Education and Media: We're Winning the Battle?" Audiovisual Instruction, XIV (January, 1969), 72-73.

[13]Paul Saettler, "Instructional Technology: Some Concern and Desiderata," AV Communication Review, XVII (1969), 358.

[14]Ibid.

universities use technological devices, including computers, in administration and instruction. However, few institutions actually train their students to teach with the newer and more complex media. As a result, many teachers have ignored or resisted the use of machines, primarily because they do not know how to use them.[15]

In 1965, John H. Fischer, President of Teachers College, Columbia University, stated that teacher education will have to respond to the fast-breaking technological developments in communication media. Modern technology has been producing potential teaching tools faster than teachers have learned to use them. As a consequence, schools are far less efficient than they could be if teachers were properly prepared to use even the simpler devices already available.[16] Eleven years later, some improvement can be seen in teacher education and the area of educational media, but for the most part, the situation has not really changed according to the literature. Many institutions of higher education that have teacher preparation programs continue to graduate teachers without adequate preparation in educational media.

According to Meierhenry, many exciting developments have occurred in the area of technology in teacher education

---

[15]Jo M. Stanchfield, "The Teacher"s Role in Educational Technology," Educational Technology, XIV (August, 1974), 46.

[16]R. C. Wheeler, "Wisconsin Survey," Audiovisual Instruction, (September, 1965), 568-571.

across the country varying from the teaching of how to thread a projector to subjecting the entire teacher education program to systems analysis with much of the content presented in individualized and mediated form. However, there is still much that needs to be done for many teacher education programs contain little or no recognition of the new technological devices which have become so much a part of the real world of today's youth.[17]

John Moldstad stated that twenty years of decision-oriented media research have produced significant evidence to justify the following claims when instructional technology is carefully selected and used:[18] (1) Significantly greater learning often results when media are integrated into the traditional instructional program, (2) Equal amounts of learning are often accomplished in significantly less time using instructional technology, and (3) Multimedia instructional programs based upon a "systems approach" frequently facilitate student learning more effectively than traditional instruction.

Many research studies support these claims. One of the earliest such studies was done by Rulon in 1930 in which an effort was made to determine the effect integrating

---

[17]W. C. Meierhenry, "Media Competencies for Teachers," Audiovisual Instruction, XIV (January, 1969), 45-46.

[18]John A. Moldstad, "Selective Review of Research Studies Showing Media Effectiveness: A Primer for Media Directors," AV Communication Review, XXII (Winter, 1974), 387-407.

specially designed science films might have on student learning of both rote items and eductive type problems. The results of the study favored the film enriched instructional approach by showing 14.8 percent superiority and 24.1 percent superiority of the text-plus-film groups over the text-only groups in immediate learning of "rote" and "eductive" items respectively. Also, the results showed 34.4 percent and 41 percent superiority on "rote" and "eductive" items respectively of text-plus-film groups over the text-only groups in retention of information after three and one half months of the experiments.[19]

In a similar study in 1952, Nelson attempted to determine if the use of several motion picture films would make a difference in student learning in a particular unit of study. By using the films in two of ten class meetings which normally included only lecture and discussion, it was found that the students who saw the films did significantly better on the examination given at the end of the unit and also on a retention test five weeks later.[20]

In 1960, Wendt and Butts examined the assets of using U. S. history films in teaching history concepts in high schools at Carbondale, Illinois. They divided 315 tenth

---

[19]P. J. Rulon, The Sound Motion Picture in Science Teaching, Cambridge, Massachusetts: Harvard University Press, 1933.

[20]Courtenay M. Nelson, "Effectiveness of Sound Motion Pictures in Teaching a Unit on Sulphur in High School Chemistry," School Science and Mathematics, LII (1952), 8-10.

grade history students into two groups. One group received traditional history instruction for the two-semester course and the second group spent one semester covering the same course content with the use of 54 history films integrated within the course content. It was found that the students in the experimental film group learned 86 percent as much history as the control group in one half the normal time.[21]

Experiments with the overhead projector and transparencies were conducted by Chance in 1960 at the University of Texas in an effort to determine the effects that transparencies would have on student learning. By comparing an instructional approach using 200 specially prepared transparencies on engineering descriptive geometry with traditional lecture-discussion approaches covering the same course content, the following conclusions were reached:[22] (1) The examination results and final grades of the transparency group in the course were significantly better than those of the traditional instructional group, (2) The faculty members agreed unanimously on the desirability of transparency utilization in teaching, (3) The transparency utilization resulted

---

[21] P. R. Wendt and G. K. Butts, A Report of an Experiment in the Acceleration of Teaching Tenth Grade World History With the Help of an Integrated Series of Films, Carbondale, Illinois, General Publications, 1960.

[22] C. W. Chance, Experimentation in the Adaption of the Overhead Projector Utilizing 200 Transparencies and 800 Overlays in Teaching Enginnering Descriptive Geometry Curricula, U. S. O. E. Project 243, Microfilm Publication Number 61-3610, Washington, D. C. 1960.

in a saving of class time that averaged 15 minutes per class period, and (4) Reports from the students showed overwhelming preference for the utilization of transparencies in instruction.

Another experimental study of overhead projection was conducted by Cabeceiras in 1972. This study was an attempt to measure and compare differences in a teacher's verbal behavior while teaching with and without the overhead projector by using the Flanders System of Interaction Analysis. The findings indicated that there were favorable differences in teachers' verbal behavior when teaching with the overhead projector as compared to teaching without it. It was found that teachers were much more indirect in using their influence when they employed the overhead projector. Also, in this situation, students did more talking and the teachers accepted more of the students ideas in teaching the lessons. There was also less time devoted to lecturing when the overhead projector was used and more time was spent on praising and encouraging the students.[23]

In 1965, Miller and Colligan used experimental and control groups to compare the use of the overhead projector with the traditional use of the chalkboard in teaching first-year bookkeeping in high school classes to determine whether there was any differnece in the quality of learning, in

---

[23]James Cabeceiras, "Observed Differences in Teacher Verbal Behavior When Using and Not Using the Overhead Projector," AV Communication Review, XX (1972), 271-280.

student interest and in problems of lesson planning. The results indicated that the experimental students who were involved with the transparencies and overhead projector utilization progressed through the year's course at a faster pace than the control students with no obvious loss in learning quality. Also, it was found that teachers and students were decidedly favorable in their opinions of the procedure and its effectiveness.[24]

The literature is abundant with additional research studies that support the effectiveness and value of all forms of educational media utilization within the teaching-learning process. This area of research was an important element of this study because it is part of the rationale for changing the curriculum policy regarding educational media preparation for secondary education students at Trenton State College. However, other areas of related research that also have a significant role within this study concern the preparation of teachers in the area of educational media, teacher opinions concerning this preparation, and teacher attitudes as they relate to the utilization of educational media.

In 1963, the National Education Association Association Research Division conducted an opinion poll of a cross-section of the nation's 1.5 million public school teachers to determine how their college preparation fitted them for teach-

---

[24]Morris Miller and Jerome Colligan, "A Study of the Effectiveness of the Use of the Overhead Projector as a Utilization Tool in First-Year Bookkeeping," AV Communication Review, XVI (1968), 446.

ing in the areas of subject knowledge, general education, psychology of learning, human development, teaching methods, history and philosophy of education and audiovisual education. A summary of the 97 percent replies showed that only 27 percent of the teachers felt that they had received too little preparation in their subject field, while 41 percent reported too little preparation in teaching methods and 60.1 percent felt that they should have had more preparation in the use of audiovisual equipment and materials.[25]

Using the same questions as the National Education Association study of teacher opinions, Salley, in 1965, polled the opinions of 900 graduating seniors in education from eight institutions of higher education throughout the State of Ohio. When compared with the National Education Association study, the results were strikingly similar. The graduating seniors reported too little preparation in subject matter in 28.6 percent of the cases; in teaching methods, 18.8 percent; and in audiovisual education, 65.6 percent.[26]

Also in 1965, Wheeler reported on a study conducted by the Wisconsin State Department of Public Instruction that was similar to the two previously cited studies by the National Education Association and Salley. This study was precipi-

---

[25]National Education Association Research Division, "Teacher Opinion Poll on Teacher Preparation," N. E. A. Journal, LII (1963), 34.

[26]Homer E. Salley, "Ohio Survey," Audiovisual Instruction, X (1965), 566-567.

tated by suspicions that teachers' lack of proficiency with modern teaching-learning tools was a chief obstacle to the utilization of media. One of the objectives of this study was to determine what proportion of future teachers being prepared in Wisconsin's colleges would receive formally organized (not "incidental") training experiences that would equip them with the competencies needed to be skillful users of modern teaching tools and materials. Responses to a seven-item questionnaire from 52 of the State's 53 colleges indicated that at the time of the study, 21,347 students were majoring in education in the institutions surveyed and that only 15.8 percent of these students would receive formally organized experiences with methods and materials of audio-visual education before they graduated. It was indicated that the results of the study, which were presented at a meeting to the Deans of Education from the various institutions, played a significant role in changing the direction and emphasis of audiovisual instruction for prospective teachers in Wisconsin's colleges. It is important to point out that one of the study's assumptions was that the utilization of newer media has developed to a point where its effective employment for the improvement of instruction requires considerable understanding and skill and that this is learned best by deliberate, organized study coupled with appropriate practice. Such skills and understandings are too vital to modern pedagogy to be left to the happenstance of "incidental"

treatment.[27]

In 1967, Streeter's doctoral dissertation attempted to determine the relationship between teachers' competencies in educational media and frequency of educational media utilization. The questionnaire that was used in the study was sent to teachers of two school systems in Michigan. In addition to requesting personal and professional background information, the questionnaire also required the teachers to indicate, for each of 47 media competencies, whether or not they possessed the competency. Also, for each competency, the teachers were asked to indicate their frequency of use with media related to the competency. By using correlation coefficients with the 436 returned questionnaires (87 percent return), it was found that there was a positive correlation between teacher media competency scores and total media frequency use scores. The correlation coefficients between each of the 47 media competencies and total media frequency scores ranged from -.02 to .33.[28]

Teacher attitudes toward educational media were found by Aquino, in his doctoral dissertation in 1968, to have improved during formal study in the area.[29] In a

---

[27]Wheeler, op. cit.

[28]Streeter, op. cit.

[29]Charles C. Aquino, "A Study to Determine Educators' Attitudes Toward Audiovisual Instruction Following Study in That Area," (unpublished Doctoral dissertation, Syracuse University, 1968).

subsequent study in 1970, Aquino investigated teacher attitudes toward audiovisual instruction as they related to the teaching environments experienced by 40 teachers following a formal course of study in audiovisual instruction. Prior to enrollment in the graduate course entitled "Audiovisual Education," the population had experienced a mean of 6.2 years of teaching and each member had had at least one year of teaching experience. However, none had previously experienced a formal course in audiovisual instruction. Any previous instruction concerning educational media had been in the form of one-day workshops or demonstrations scattered throughout their careers. More than 90 percent of the population indicated that the only method by which they had learned about educational media was through self-instruction on a trial-and-error basis. Although some members of the population had utilized during their teaching career at least one type of projection and/or audio device, the group as a whole was unsophisticated in applying educational media to the teaching-learning process. The data indicated that 35 percent of the population had never utilized a projected image and 12 percent had never used an electronic audio device. The course involved in the study covered the selection and utilization of educational media, application of media to the curriculum objectives, basic production techniques for audiovisual materials and communication theory and learning theory as they apply to the previous activities. A measurement of attitudes during the course indicated that

attitudes toward audiovisual instruction had improved, and subsequent measures taken at the beginning and conclusion of the population's first semester of teaching following the audiovisual education course showed a significant level of interest concerning the availability of audiovisual equipment and materials and their accessibility.[30]

In a third study of teacher attitudes toward educational media, Aquino, in 1974, attempted to determine if teachers' attitudes toward audiovisual instruction were influenced by the period of time which had elapsed since they had studied a formal course in the area. The Media Attitude Profile (MAP), which was developed by Dawsin in 1971, was administered to 156 educators who had assumed or resumed teaching duties following an audiovisual education course. From the population, 96 subjects had completed the course during the summer of 1968 and were designated Study Group A while the remaining 60 subjects who were designated Study Group B had completed the course during the summer of 1969. Both groups had completed the same course with the same instructor, possessed similar educational backgrounds and experiences, and expressed similar motivation for studying audiovisual instruction. At the time the Media Attitude Profile was mailed to the subjects, 18 months had elapsed since Study Group A had

---

[30]Charles C. Aquino, "Teacher Attitudes Toward Audiovisual Instruction as They Are Influenced by Selected Factors Within Teaching Environments," AV Communication Review, XVIII (Summer, 1970), 187-195.

taken the course and 6 months had elapsed for Study Group B. The findings, as a result of t-Tests, indicated that no differences in attitudes toward educational media existed between Group A and Group B.[31]

In separate but similar studies not related to educational media, Jones and Munger reached conclusions that indicated that attitudes toward a field of study improved during formal study within the area.[32, 33]

Kelley, in his study on teacher attitudes toward audiovisual materials, found that college course work in audiovisual materials and training in the production of these materials were both significant factors in the formation of attitudes. It was also found that those teachers who had formal course work in the area tended to have better attitudes toward the utilization of audiovisual materials. Based on the findings of his study, Kelley concluded that we should make every effort to encourage the use of audiovisual materials in our teacher training institutions if we want our students to use these materials when they begin their teaching

---

[31]Charles C. Aquino, "Teacher Attitudes to Media Teaching Environments," British Journal of Educational Technology, V (January, 1974), 72-78.

[32]V. Jones, "Attitude Changes in an N.D.E.A. Institute," Personnel and Guidance Journal, XLII (1963), 387-442.

[33]P. Munger and others, "Guidance Institutes and the Persistence of Attitudes," Personnel and Guidance Journal, XLI (1963), 415-419.

careers.[34]

A study conducted by Webb at the College of St. Thomas in St. Paul Minnesota examined the relationship between teacher attitudes as measured by the Minnesota Teacher Attitude Inventory and the responses of teachers to an audiovisual film program survey. The results of the study, which involved teachers in the St. Paul and Duluth public school systems, showed that teachers with high M.T.A.I. scores (1) completed a formal course at college in audiovisual education, (2) used filmstrip projectors, overhead projectors, tape recorders and radios in their teaching, (3) used a great number of films, (4) previewed new social studies films within the past year, (5) assigned television viewing, (6) were well informed about films, (7) were familiar with films before using them, (8) were helpful to their students in their search for information from films, (9) provided follow-up activities to their film presentations, (10) used many different types of prepared audiovisual materials, and (11) were considered among the most effective teachers on the staff by the principals.[35]

Jenkins, in 1972, attempted to determine if prospective teachers enrolled in a basic course in educational

---

[34]Gaylen B. Kelley, "A Study of Teacher Attitudes Toward Audiovisual Materials," Educational Screen and Audiovisual Guide, XXXIX (March, 1960), 119-121.

[35]John Moldstad, "Summary of Audiovisual Research," Audiovisual Instruction, IX (September, 1964), 492-497.

media at the University of Southern Mississippi experienced an attitudinal change toward the use of educational media when compared with prospective teachers who were not enrolled in the basic course. By using experimental and control groups with 42 and 43 students in the respective groups and comparing all appropriate variable data with appropriate correlations, one of the major conclusions was that a significant relationship existed between teacher attitude toward educational media and the completion of a basic course in educational media.[36]

In an effort to develop a model educational media course for the professional preparation of elementary and secondary teachers in Arkansas, Lawrence, in 1969, gathered data from college and university catalogues and employed the use of a questionnaire and two opinionnaires. The population was represented by samples including (1) the state university of each state and 24 randomly selected institutions of higher learning, (2) the fifty state departments of education, (3) two hundred and forty elementary and secondary teachers and principals in Arkansas, (4) sixty selected professional educators in the United States, and (5) one hundred and thirty-four selected professional educators in Arkansas. Of the six major findings of the study, two significant findings were (1) 90 percent of the elementary

---

[36]David Morris Jenkins, "An Investigation of Teacher Attitudes Toward Educational Media When Related to a Basic Course in Educational Media," (unpublished Doctoral dissertation, University of Southern Mississippi, 1972)

teachers and 100 percent of the secondary teachers, elementary principals and secondary principals surveyed in Arkansas felt that an audiovisual media course should be required for pre-service professional preparation of teachers and (2) 92 percent of the elementary teachers, 82 percent of the secondary teachers, 89 percent of the elementary principals and 85 percent of the secondary principals indicated a preference for requiring an audiovisual media course for teacher certification. It was also found that only 8 percent of the colleges and universities surveyed required an audiovisual media course for the pre-service professional preparation of elementary teachers, while 4 percent required the course for secondary school teachers. Also, it was found that there were no audiovisual media course requirements for certification of elementary or secondary school teachers in any of the fifty state departments of education.[37]

Based on a concern that pre-service teacher preparation in effective utilization of educational media is vital to a teacher's success in the teaching-learning process, Haselwood, in 1972, investigated through accessment the knowledge and competencies possessed by elementary and secondary student teachers at the University of Nebraska at Omaha. The investigation sought to determine whether there were any

---

[37]Herbert Hall Lawrence, "The Development of a Model Media Course For the Professional Preparation of Elementary and Secondary Teachers in Arkansas," (unpublished Doctoral dissertation, University of Arkansas, 1969).

relationships between educational media competencies possessed by the student teachers and the type of educational media curriculum they had taken during their pre-service preparation which included several types of pre-service educational media instruction, i.e., the library-educational media curriculum which included 24 to 30 credit hours, a no-credit educational media laboratory experience, a 4-credit hour integrated methods-educational media course, and no educational media instruction. A three-part questionnaire was employed to gain information about the subjects' knowledge and skill related to setting-up and operating commonly available audiovisual equipment. The findings of the study as revealed from an analysis of the data through the use of a one-way Analysis of Variance were (1) no significant differences existed among the four groups of students with four different types of instruction concerning library competencies, and (2) no significant differences existed between the library-educational media curriculum treatment and each of the other four treatments regarding library competencies. However, for the audiovisual competencies, there were (1) significant differences among the four groups of students with four different types of instruction, and (2) significant differences between the library-educational media curriculum treatment and each of the other instructional treatments. Also, it was found that the incorporation of educational media instruction with the content of a methods course facilitated the students' ability to see the relevancy

and need for the development of educational media skills.[38]

In 1973, Kennard attempted to determine what relationship existed between the quality of educational media programs at eleven Louisiana universities and the level of media competency attained by teacher graduates of the institutions. In addition to this major purpose of the study, an attempt was also made to determine the relationships between (1) the quality of the educational media program and the amount of emphasis placed on the development of media competency in students in the teacher education program, (2) the emphasis on the development of media competency in teacher education students and the level of competency attained by the teacher graduates, and (3) the quality of the educational media program and the level of competency of teachers in the skills and knowledge categorized as production of materials and equipment operation. Data for the study were gathered from 822 beginning teachers in Louisiana public schools who were graduates of the eleven universities and from the educational media directors in the universities. The educational media directors completed an "evaluative checklist" to indicate the amount of emphasis placed on the development of educational media competency in teacher trainees. The teachers completed a "media competency survey" containing a

---

[38]Eldon L. Haselwood, "An Analysis of the Media Competencies of College of Education Student Teachers at the University of Nebraska at Omaha," (unpublished Doctoral dissertation, University of Nebraska-Lincoln, 1972).

list of 41 educational media competencies categorized in such a manner that the level of competency in equipment operation and the level of competency in production of media could be determined along with a total level of media competency. By using the Spearman rho rank correlation coefficients, significant correlations were found between media program quality and the (1) level of media competency of the graduates, (2) emphasis on the development of media competency of the teacher trainees, (3) level of competency in the production of materials and (4) level of competency in equipment operation. Based on the findings of the study, a major conclusion was that teacher training institutions with higher quality media programs graduate teachers with higher levels of media competency.[39]

Ford, in 1974, compared the level of training for educational media competency which a group of 300 first year Oklahoma public school teachers received through their teacher education programs with the level of competency they perceived to possess after they had been teaching for a short period of time (between six months and one year) in Oklahoma public school systems. The teachers responded to a 41 item questionnaire which covered (1) preparation and use of physical facilities, (2) production of media materials,

---

[39]Albert L. Kennard, "Media Competency of Teachers in Relation to the Quality of the Educational Media Programs in Teacher Training Institutions: A Study of Selected Louisiana Publis Institutions and Graduates," (unpublished Doctoral dissertation, The University of Oklahoma, 1973).

(3) selection and evaluation of media, and (4) utilization of media. The results of the study showed that (1) all teacher graduates felt that they were significantly more competent in media than they were at the time they received their media training, especially in the areas of selection and evaluation of media, (2) teachers had to develop many media competencies after they started teaching since their teacher education program had failed to provide sufficient media training in some areas, (3) teachers who had a formal course in media as part of their teacher education program possessed a significantly higher level of media competency and a significantly higher level of training for media competency than those teachers who did not have such a course, and (4) no significant differences existed between the level of media competence and the level of training for media competency possessed by teacher graduates from the University of Oklahoma who had had an automated educational media course as part of their teacher education program and teachers from nine other State education institutions who had not had such an automated educational media course during their teacher education program.[40]

Lewis, in 1969, used a questionnaire-reactionnaire to examine the relationships between the independent variables of teachers' age, sex, years teaching, grade level taught,

---

[40]Margie D. Ford, "An Exploratory Study of Media Competencies as Perceived by 1973 Teacher Education Graduates From the University of Oklahoma and Other Selected Teacher Education Institutions in Oklahoma," (unpublished Doctoral dissertation, The University of Oklahoma, 1974).

and formal training and the dependent variables of future plans, concepts and attitudes of teachers when educational media were involved in the classroom situation. The data collection instrument, which was administered to teachers in a large city school system, was designed to obtain information regarding past educational media experiences, current awareness of media and media personnel, and use of educational media. Seven hundred and thirty-nine teachers returned the questionnaire-reactionnaire which represented a 58.8 percent return. As a result of the data analysis through the use of Chi Square, it was found, among other things, that significant relationships existed between the teachers' formal training and awareness of six types of media and the use of twelve types of media.[41]

Theda, in 1969, investigated the utilization of audiovisual media by teachers of educable mentally retarded children in the State of Texas. Data was collected for the study through the use of an audiovisual survey instrument that was concerned with the frequency of use and the availability of audiovisual media and equipment, and the frequency of use and ease of use of audiovisual techniques. In addition, the instrument also gathered data concerning audiovisual training in the teacher preparation program, audiovisual training after beginning to teach an educable mentally retarded class,

---

[41]Edward Eugene Lewis, "A Study to Determine Teacher Perceptions in Relation to Educational Media," (unpublished Doctoral dissertation, Texas Tech University, 1969)

the size of the school district, and experience teaching educable mentally retarded students. Also, a "Competency Evaluative Checklist" was completed by the Special Education Supervisors of the teachers involved in the study. This checklist was used to divide the teacher respondents into two groups. One group consisted of the teachers with the highest mean competency rating scores and it was designated the "most effective teachers" of educable mentally retarded pupils. The other group, which was designated the "least effective teachers" of educable mentally retarded pupils, consisted of those teachers with the lowest mean competency rating scores. Among several findings that resulted from the study, it was revealed that (1) the "most effective teachers" used audiovisual media, equipment and techniques with significantly greater frequency than did the "least effective teachers" group, (2) the "most effective teachers" used a significantly greater variety of audiovisual media, equipment and techniques than the "least effective teachers" group, and (3) audiovisual courses taken during teacher preparation programs and audiovisual training taken after starting to teach an educable mentally retarded class encouraged significantly greater frequency of use of a number of audiovisual media. The main implication-conclusion of the study was that considerably greater emphasis should be placed on the utilization of audiovisual media in the teacher preparation programs and in-service programs

for teachers of educable mentally retarded children.[42]

In 1971, Arterbury attempted to determine whether teachers of Texas public schools were utilizing the Regional Educational Service Centers. An attempt was also made to identify causes which might have deterred utilization of the Centers by teachers. Through the use of a four-part questionnaire which was mailed to 750 teachers in 5 selected Educational Service Center regions and the application of a Chi Square test on the data from 609 returned questionnaires, the following factors were found to have affected teacher utilization of the Centers: (1) the length of the teacher's professional service, (2) the grade level taught, (3) the subject matter taught, and (4) the teacher's training in the use of audiovidual media and equipment. Among several conclusions, a significant conclusion was that teachers with over three semester hours of college training in the use of instructional media tended to utilize the media services of the Educational Service Centers most often while teachers with no audiovisual training tended to use the media services of the Centers less often.[43]

---

[42]Kenneth Paul Theda, "The Relationship of Audiovisual Materials, Equipment and Technique Utilization to Perceived Instructional Effectiveness of Teachers of Educable Mentally Retarded Children," (unpublished Doctoral dissertation, Texas Tech University, 1969).

[43]Elvis Hugh Arterbury, "Teacher Utilization of Media Services Provided by The Regional Educational Service Centers in Texas," (unpublished Doctoral dissertation, East Texas State University, 1971).

Busse, in 1975, examined the relationship between self-assessed media competency levels of Minneapolis public elementary school teachers and the valuation they placed on media and the rate at which they used media in their instructional areas. From 240 teachers involved in the study, a total of 179 teachers completed and returned the research instrument on which they rated themselves on 74 items related to media evaluation. Although the findings of the study revealed the areas where the teachers had the highest and lowest levels of competency with and value for media, the results indicated that there was a significant relationship between the media competencies of teachers and the rate at which they utilized and valued educational media within their instructional settings.[44]

As indicated in the literature, the problem of teacher preparation in the area of educational media is not confined to Trenton State College and the State of New Jersey. It seems to be a problem nationally. However, this study attempted to obtain evidence that could be used to improve the preparation of secondary education students in the area of educational media at Trenton State College.

---

[44]Norman Lee Busse, "Media Competencies and How They Relate to Media Utilization and Media Values of Elementary Teachers in Minneapolis Public Schools," (unpublished Doctoral dissertation, The University of Nebraska-Lincoln, 1975).

Chapter 3

PROCEDURES AND METHODOLOGY

Data Collection Instrument

A survey research methodology was employed as the technique for acquiring the information necessary to test the hypotheses of this study. This technique involved the use of a five-part questionnaire as the data collection instrument (Appendix D). The questionnaire was developed through the selection of items from the questionnaire used by Streeter[45] in his research and by Romano and Spiecker[46] in their research. In addition, the questionnaire was field tested with a sample of 50 teachers who were taking courses at Trenton State College during the Summer Session of 1976.

Sampling Technique

The secondary school teachers who received a questionnaire were selected through the use of a stratified random sampling of the 252 public secondary school districts in the State of New Jersey as listed alphabetically by county in a document that was provided by the New Jersey

---

[45] Streeter, op. cit.

[46] Romano and Spiecker, op. cit.

State Department of Education.[47] This sampling was limited to 15 percent of the public secondary school districts in each of the State's 21 counties, but it included all the secondary schools that composed each district. In some cases, the secondary school districts consisted of only one secondary school while in other cases the districts consisted of more than one school. The procedures that were used to select the secondary schools involved two steps. First, the secondary school districts, as listed alphabetically by county in the secondary school bulletin previously cited were numbered for identification and random selection, and second, 15 percent of the secondary school districts in each county were then selected through the use of a table of random digits.[48] This procedure resulted in the identification of 41 secondary school districts which included 58 public secondary schools throughout the 21 counties of New Jersey from which the secondary school teachers were also randomly selected.

The random selection of the secondary school teachers in each of the 58 secondary schools was achieved through the

---

[47]Directory of Approved New Jersey Secondary Schools-Secondary School Bulletin, New Jersey State Department of Education, Division of Curriculum and Instruction, Trenton, New Jersey, 1976

[48]Richard Runyon and Audrey Haber, Fundamentals of Behavioral Statistics, Reading, Massachusetts: Addison-Wesley Publishing Company, 1971.

use of the New Jersey Data Base File which is maintained by the New Jersey Educational Computer Network in New Brunswick, New Jersey. Through the use of a computer program package at the Computer Center of Trenton State College, the name of each teacher in each of the 58 schools, his or her social security number and other information pertinent to the study were retrieved in the form of IBM computer cards. Twenty-five percent of the teachers in each school were then randomly selected by computer. This random selection was achieved by running the teacher IBM computer cards for each school through the computer with random selection based on the last four digits of the teachers' social security numbers. As a result of this sampling procedure, 1115 public secondary school teachers throughout the State of New Jersey were selected as the sample for the study. This sample, as shown in Table 2, was considered to be a group that was representative of all secondary school teachers in the State of New Jersey as a result of the sampling procedures.

Since the secondary school teachers that were involved in this study were identified by name, the questionnaire, which was accompanied by a cover letter to the teacher (Appendix C), was addressed directly to each teacher in each secondary school. However, the addressed questionnaires for the teachers in each school were sent in one package directly by name to the school principal of the respective secondary schools with a cover letter explaining the purpose of the study and the procedures for the distribution of the question-

Table 2

THE SECONDARY SCHOOL TEACHER SAMPLE BY COUNTY, SCHOOL DISTRICT, SECONDARY SCHOOL AND QUESTIONNAIRE RETURNS

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
Atlantic	Pleasantville	Pleasantville High School	56	14	9	64.3
Bergen	Emerson	Emerson Junior-Senior High School	71	18	16	88.9
	Hasbrouck Heights	Hasbrouck Heights High School	48	12	7	58.3
	Midland Park Borough	Midland Park High School	47	12	5	41.7
	Paramus	Paramus High School	122	31	14	45.2
		East Brook Junior High School	51	13	11	84.6
		West Brook Junior High School	59	15	14	93.3
	Ramapo Indian Hills Regional	Indian Hills High School	99	25	10	40.0

Table 2 (continued)

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
		Ramapo High School	106	27	9	33.3
	Waldwick	Waldwick High School	62	16	15	94.8
Burlington	Bordentown Area Regional	Bordentown Regional High School	58	15	8	53.3
	Lenape Regional	Lenape Regional High School	119	30	11	36.7
		Shawnee High School	100	25	18	72.0
Camden	Haddon Heights	Haddon Heights High School	72	18	13	72.2
	Oaklyn	Oaklyn Junior High School	33	8	8	100.0
Cape May	Middle Township	Middle Township High School	61	15	6	40.0
Cumberland	Vineland City	Vineland High School	210	53	28	52.8

Table 2 (continued)

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
		Landis Junior High School	53	13	12	92.3
Essex	Belleville	Belleville High School	87	22	15	68.2
		Belleville Junior High School	70	18	4	22.2
	Verona	Verona High School	72	18	5	27.8
	West Orange	West Orange High School	62	16	8	50.0
		Mountain High School	67	17	15	88.2
		Edison Junior High School	34	9	9	100.0
		Lincoln Junior High School	43	11	6	54.5
		Roosevelt Junior High School	39	10	3	30.0

Table 2 (continued)

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
Gloucester	Pitman	Pitman High School	50	13	8	61.5
	West Deptford Township	West Deptford High School	77	19	13	68.4
Hudson	Hoboken	Hoboken High School	85	21	5	23.8
		Brandt Junior High School	42	11	2	18.1
		Demarest Junior High School	62	16	8	50.0
	Jersey City	Snyder High School	150	38	0	0.0
		Dickinson High School	160	40	8	20.0
		Lincoln High School	105	26	5	19.2
		Ferris High School	115	29	2	6.8
Hunterdon	South Hunterdon Regional	South Hunterdon Regional High School	51	13	10	76.9

Table 2 (continued)

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
Mercer	West Windsor Plainsboro Regional	West Windsor Plainsboro High School	82	21	18	85.7
Middlesex	Metuchen	Metuchen High School	60	15	12	80.0
	South Amboy	Hoffman High School	30	8	2	25.0
	South Plainfield	South Plainfield High School	113	28	11	39.3
Monmouth	Keansburg	Keansburg Junior-Senior High School	49	12	12	100.0
	Manasquan	Manasquan High School	90	23	23	100.0
	Upper Freehold Regional	Allentown High School	48	12	7	58.3
Morris	Boonton	Boonton High School	89	22	13	59.1
	Butler	Butler High School	70	18	18	100.0

Table 2 (continued)

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
	Morris Hills Regional	Morris Hills High School	111	28	13	46.4
		Morris Knolls High School	125	31	0	0.0
Ocean	Central Regional	Central Regional High School	149	37	15	40.5
Passaic	Passaic County Manchester Regional	Manchester Regional High School	66	17	17	100.0
	Pompton Lakes	Pompton Lakes High School	65	16	4	25.0
Salem	Woodstown Pilesgrove Regional	Woodstown High School	52	13	6	46.2
Somerset	Greenbrook Township	Greenbrook High School	42	11	7	63.6
	Manville	Manville High School	59	15	5	33.3

Table 2 (continued)

County	Secondary School District	Secondary School	Teacher Staff	Teacher Sample	Questionnaire Returns	
			N	N	N	%
Sussex	Newton	Newton High School	65	16	9	56.3
Union	Hillside Township	Hillside High School	76	19	14	73.7
	Rahway	Rahway High School	68	17	8	47.1
		Rahway Junior High School	74	19	5	26.3
Warren	Belvidere	Belvidere High School	40	10	10	100.0
Total 21	41	58	4421	1115	569	51.0

naires to the teachers and the collection and return of the questionnaires (Appendix A). In addition to the questionnaires and the respective cover letters, a letter of endorsement for the study from Dr. Clayton Brower, President of Trenton State College, was also sent to the secondary school principals in an effort to gain their support in distributing, collecting and returning the questionnaires (Appendix B).

The questionnaires were sent to the secondary school principals of the respective secondary schools on September 15, 1976 for distribution to the teachers with a target date of September 25, 1976 for return of the questionnaires by the principals. Since the goal for the returned questionnaires was in the area of 40 to 50 percent, an intensive telephone follow-up involving contact with various principals as necessary was begun on October 1, 1976 and continued until a satisfactory return of the questionnaires was achieved on October 22, 1976.

Variables and Statistical Treatment

The independent and dependent variables involved in this study were:

Independent Variables

A. A formal course in educational media as part of the teachers' professional preparation.

B. No formal course in educational media as part of the teachers' professional preparation.

Dependent Variables

A. The teachers' frequency of educational media utilization.

B. The teachers' views regarding the adequacy of their professional preparation in educational media.

C. The teachers' views regarding the importance of educational media competencies for secondary school teachers.

D. The teachers' views regarding the academic approaches for the development of educational media competencies in future secondary school teachers.

The data that was collected from each questionnaire was key punched onto IBM computer cards for statistical treatment through the use of a t-Test and Chi Square Tests. The t-Test was used to compare the mean scores of secondary school teachers who had had a formal course in educational media as part of their professional preparation with those secondary school teachers who had not had such a course regarding educational media utilization frequency data. The Chi Square Tests were used to compare the adequacy of professional preparation views data, importance of professional preparation views data, and academic approach views data between secondary school teachers who had had a formal course in educational media as part of their professional preparation and those secondary school teachers who had not had such a course. This statistical treatment, which is also presented in Chapter 4, was carried out at the Computer Center of Trenton State College. All of the above procedures regarding the statistical treatment of the data involved the use of the

University of Chicago Statistical Package for the Social Sciences.[49]

[49]Norman Nie, D. H. Bent, and C. Hadlai Hull, Statistical Package for the Social Sciences-University of Chicago, McGraw-Hill, New York, New York, 1970.

Chapter 4

RESULTS

Data Resulting From the Study

The data presented in the following tables are the results of the questionnaires returned from 569 public secondary school teachers throughout the 21 counties of the State of New Jersey. Since the questionnaire was sent to 1115 public secondary school teachers in the State, the data represent a 51 percent return of validated and usable questionnaires. Seventeen returned questionnaires or 1.5 percent were invalidated due to improper completion of the instrument's questions. At the time the telephone follow-up was begun on October 1, 1976, the questionnaire return level was 379 or 34 percent. The follow-up proved to be successful since an additional return of 190 questionnaires or 17 percent was achieved. The number and percent of validated questionnaire returns from the teachers in each school is shown in Table 2 as previously presented on page 45. In Table 3, the teacher respondents are separated into two groups according to whether they had had or had not had a formal course in educational media as part of their professional preparation and data are presented regarding the respondents' age, number of years teaching and sex. Data regarding the subject areas taught by the

Table 3

DISTRIBUTION OF SECONDARY SCHOOL TEACHER RESPONDENTS
BY GROUP, MEAN AGE, MEAN YEARS TEACHING, AND SEX

Group	Respondents	Age	Years Teaching	Male	Female
	N	$\bar{X}$	$\bar{X}$	N	N
Media Course Group	257	37	12	149	108
No Media Course Group	312	34	10	161	151

respondents are presented in Table 4. For future clarity, the two groups are referred to in all tables and discussion as the "Media Course Group" and the "No Media Course Group." The "Media Course Group" consisted of 257 teacher respondents and the "No Media Course Group" consisted of 312 teacher respondents.

Analysis of the Data

Summarized in Table 5 are the raw data regarding the educational media utilization frequencies for the teacher respondents of both groups. This raw data was statistically treated by the use of a t-Test in order to test the null hypothesis that:

> There is no significant difference in the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course.

The results of the t-Test regarding this data and the hypothesis are shown in Table 6. These results were achieved by using the following t-Test formula with 567 degrees of freedom on a two-tailed test.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{\sum X_1^2 + \sum X_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

Table 4

DISTRIBUTION OF SECONDARY SCHOOL TEACHER GROUP RESPONDENTS BY SUBJECT AREA TAUGHT

Subject Area Taught	Media Course Group		No Media Course Group	
	N	%	N	%
Art	11	4.3	14	4.5
Biology	17	6.6	19	6.1
Business	23	8.9	27	8.7
Chemistry	10	3.9	5	1.6
English-Languages	57	22.2	87	27.6
Geography	2	0.8	6	1.9
Health-Physical Education	26	10.1	28	9.0
History	25	9.7	38	12.2
Industrial Education	17	6.6	6	1.9
Mathematics	34	13.2	41	13.1
Music	4	1.6	3	1.0
Physics	3	1.2	5	1.6
Political Science	1	0.4	2	0.6
Sociology	0	0.0	2	0.6
Other	27	10.5	29	9.3
Total	257	45.1	312	54.8

Table 5

EDUCATIONAL MEDIA UTILIZATION FREQUENCIES DATA FOR THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP"

Educational Media Approaches, Techniques, and Devices	Utilization Frequencies	
	Media Course Group N	No Media Course Group N
Prepared Thermal (3M) Transparencies	2381	2126
Prepared Color-Lift Transparencies	496	619
Prepared Diazo Transparencies	293	222
Prepared Overlay Transparencies	1354	1199
Set Up and Operated an Overhead Projector	5566	4445
Prepared Materials for Use With Flannel Boards and Display Boards	1600	978

Table 5 (continued)

Educational Media Approaches, Techniques, and Devices	Utilization Freqiencies	
	Media Course Group N	No Media Course Group N
Prepared Either Wet or Dry Mounted Pictures	1083	853
Prepared Laminated Pictures	249	139
Set Up and Operated an Opaque Projector	1260	676
Set Up and Operated a Tape Recorder	5836	4796
Prepared and Used Models or Dioramas	1636	1595
Prepared and Used Programmed Instruction Materials	2605	2540
Set Up and Operated the Kodak Ektagraphic Visual Maker	543	220
Prepared Tape Recordings	1760	1468

Table 5 (continued)

Educational Media Approaches, Techniques, and Devices	Utilization Frequencies	
	Media Course Group N	No Media Course Group N
Prepared and Used Tape Recording-Photographic Slide Presentations	1206	1024
Prepared and Used Photographic Slides	1353	1059
Set Up and Operated a 16mm Motion Picture Projector	5102	4925
Set Up and Operated a Filmstrip Projector	5076	4734
Set Up and Operated an Automatic Slide Projector	1800	1671
Selected, Acquired and Used Materials from One or More Free Sources	4057	2958
Set Up and Operated a Cartridge Loading 8mm Motion Picture Projector	564	440

Table 5 (continued)

Educational Media Approaches, Techniques, and Devices	Utilization Frequencies	
	Media Course Group N	No Media Course Group N
Set Up and Operated a Still Camera	1807	1067
Set Up and Operated a Motion Picture Camera	742	324
Total	48,369	40,078

Table 6

COMPARISON OF MEAN SCORES BETWEEN THE SECONDARY SCHOOL TEACHERS OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING EDUCATIONAL MEDIA UTILIZATION FREQUENCIES

Group	N	Utilization Frequencies	$\bar{X}$	Sd	Se	df	t	Level of Significance
Media Course Group	257	48,369	188.2062	205.200	12.880	567	4.26	$p \leq .001$
No Media Course Group	312	40,078	128.4551	125.962	7.131			

Summarized in Tables 7 through 13 are the data and the results of 7 Chi Square Tests that were used to test the null hypothesis that:

> There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the adequacy of their professional preparation in educational media.

The results of the data regarding this hypothesis were achieved by using the following Chi Square Test formula with 4 degrees of freedom on a two-tailed test:

$$X^2 = \sum\left[\frac{(fo - fe)^2}{fe}\right]$$

Seven additional Chi Square Tests, using the above formula with 4 degrees of freedom on a two-tailed test, were also employed with the data presented in Tables 14 through 20 to test the null hypothesis that:

> There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the importance of

Table 7

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "KNOWLEDGE OF A WIDE VARIETY OF INSTRUCTIONAL MEDIA AVAILABLE IN THE TEACHER'S CURRICULAR SPECIALIZATION"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	21	41	103	59	33	257
No Media Course Group	64	73	119	35	21	312
Total	85	114	222	94	54	569

X^2 = 35.70000 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 8

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO SELECT THE MEDIA THAT POSSESS THE POTENTIAL TO MEET THE DESIRED TEACHER-STUDENT OBJECTIVES"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	16	47	108	59	27	257
No Media Course Group	63	71	122	46	10	312
Total	79	118	230	105	37	569

X^2 = 38.15601 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 9

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO PREPARE A VARIETY OF INSTRUCTIONAL MATERIALS FOR USE IN THE TEACHING-LEARNING PROCESS"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	18	56	104	56	23	257
No Media Course Group	80	86	96	38	12	312
Total	98	142	200	94	35	569

X^2 = 47.91776 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 10

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO INTEGRATE MEDIA WITH THE SUBJECT CONTENT"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	15	49	95	75	23	257
No Media Course Group	56	61	125	55	15	312
Total	71	110	220	130	38	569

X^2 = 28.78978 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 11

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "KNOWLEDGE OF A VARIETY OF MEDIA UTILIZATION PRACTICES"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	9	44	118	61	25	257
No Media Course Group	61	90	112	40	9	312
Total	70	134	230	101	34	569

X^2 = 61.73224 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 12

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO OPERATE THE COMMON EDUCATIONAL MEDIA EQUIPMENT"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	13	26	74	89	55	257
No Media Course Group	85	69	85	45	28	312
Total	98	95	159	134	83	569

X^2 = 91.89519 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 13

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE ADEQUACY OF THEIR PROFESSIONAL PREPARATION REGARDING "ABILITY TO EVALUATE THE EFFECTIVENESS OF EDUCATIONAL MEDIA IN TERMS OF THE TEACHER'S OBJECTIVES"

Group	Rating Frequencies					
	Extremely Inadequate N	Very Inadequate N	Adequate N	Very Adequate N	Extremely Adequate N	Total N
Media Course Group	15	65	104	57	16	257
No Media Course Group	73	77	109	33	20	312
Total	88	142	213	90	36	569

X^2 = 41.27238 and is significant at the .001 level with 4 degrees of freedom on a two-tailed test.

Table 14

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "KNOWLEDGE OF A WIDE VARIETY OF INSTRUCTIONAL MEDIA AVAILABLE IN THE TEACHER'S CURRICULAR SPECIALIZATION"

Group	Rating Frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	5	14	37	105	96	257
No Media Course Group	10	12	54	113	123	312
Total	15	26	91	218	219	569

X^2 = 3.33348 and is not significant with 4 degrees of freedom on a two-tailed test.

Table 15

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO SELECT THE MEDIA THAT POSSESS THE POTENTIAL TO MEET THE DESIRED TEACHER-STUDENT OBJECTIVES"

Group	Rating Frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	5	16	32	106	98	257
No Media Course Group	7	13	54	121	117	312
Total	12	29	86	227	215	569

X^2 = 3.65969 and is not significant with 4 degrees of freedom on a two-tailed test.

Table 16

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO PREPARE A VARIETY OF INSTRUCTIONAL MATERIALS FOR USE IN THE TEACHING-LEARNING PROCESS"

Group	Rating Frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	4	19	64	104	66	257
No Media Course Group	8	24	86	110	84	312
Total	12	43	150	214	150	569

X^2 = 2.17358 and is not significant with 4 degrees of freedom on a two-tailed test.

Table 17

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO INTEGRATE MEDIA WITH THE SUBJECT CONTENT"

Group	Rating Frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	6	14	28	108	101	257
No Media Course Group	8	13	48	114	129	312
Total	14	27	76	222	230	569

X^2 = 3.87664 and is not significant with 4 degrees of freedom on a two-tailed test.

Table 18

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "KNOWLEDGE OF A VARIETY OF MEDIA UTILIZATION PRACTICES"

Group	Rating Frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	3	18	47	122	67	257
No Media Course Group	7	16	75	132	82	312
Total	10	34	122	254	149	569

X^2 = 4.77591 and is not significant with 4 degrees of freedom on a two-tailed test.

Table 19

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO OPERATE THE COMMON EDUCATIONAL MEDIA EQUIPMENT"

Group	Rating frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	5	13	32	88	119	257
No Media Course Group	8	11	61	111	121	312
Total	13	24	93	199	240	569

X^2 = 7.32907 and is not significant with 4 degrees of freedom on a two-tailed test.

Table 20

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF THE IMPORTANCE OF EDUCATIONAL MEDIA COMPETENCY FOR SECONDARY SCHOOL TEACHERS REGARDING "ABILITY TO EVALUATE THE EFFECTIVENESS OF EDUCATIONAL MEDIA IN TERMS OF THE TEACHER'S OBJECTIVES"

Group	Rating Frequencies					
	No Importance N	Limited Importance N	Some Importance N	Great Importance N	Very Great Importance N	Total N
Media Course Group	5	15	39	103	95	257
No Media Course Group	7	9	70	109	117	312
Total	12	24	109	212	212	569

$X^2 = 7.85976$ and is not significant with 4 degrees of freedom on a two-tailed test.

educational media competencies for secondary school teachers.

The results of these Chi Square Tests are also presented in Tables 14 through 20.

Summarized in Table 21 are the data and the results of a Chi Square Test, with 7 degrees of freedom on a two-tailed test, that was used to test the null hypothesis that:

> There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding academic approaches for the development of educational media competencies in future secondary school teachers.

The Chi Square Test formula that was used in testing the data regarding this hypothesis was the same formula cited above with the preceding Chi Square Tests.

Findings

The following findings resulted from the analysis of the data:

A. As indicated in Table 6, the calculated value of t exceeded the critical value of t at the .001 level with 567 degrees of freedom on a two-tailed test for the null hypothesis that: There is no significant difference in the frequency of educational media

Table 21

OBSERVED RATING FREQUENCIES OF THE "MEDIA COURSE GROUP" AND THE "NO MEDIA COURSE GROUP" CONCERNING THEIR VIEWS OF ACADEMIC APPROACHES FOR THE DEVELOPMENT OF EDUCATIONAL MEDIA COMPETENCIES IN FUTURE SECONDARY SCHOOL TEACHERS

Group	Academic Approaches								
	3 Credit Course N	2 Credit Course N	1 Credit Course N	Integrated With General Education Methods Courses N	Integrated With Academic Specialty Courses N	Integrated With Student Teaching Programs N	Developed Through a Self-Instructional Program Administered by The College N	Developed Through Inservice Programs Upon Employment N	Total N
Media Course Group	78	17	4	34	60	27	7	30	257
No Media Course Group	76	23	11	53	77	24	4	44	312
Total	154	40	15	87	137	51	11	74	569

x^2 = 8.86129 and is not significant with 7 degrees of freedom on a two-tailed test.

utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course. Therefore, this null hypothesis was rejected and the alternative hypothesis was accepted since there is a significant difference in the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course. More specifically, the secondary school teachers who had had a formal course in educational media as part of their professional training ("Media Course Group") showed a significantly higher educational media utilization frequency rate than their colleagues ("No Media Course Group") who had not had such a course.

B. A significant difference was also found between the "Media Course Group" and the "No Media Course Group" as indicated in Tables 7 through 13 regarding the null hypothesis that: There is no significant differnece in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the adequacy of their professional

preparation in educational media. For each of the seven competency areas of educational media tested regarding this null hypothesis, it was found, as indicated in Tables 7 through 13, that the calculated value of Chi Square exceeded the critical value of Chi Square at the .001 level with 4 degrees of freedom on a two-tailed test. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted since there is a significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the adequacy of their professional preparation in educational media. The secondary school teachers who had had a formal course in educational media ("Media Course Group") rated the adequacy of their professional preparation in educational media significantly higher than their colleagues ("No Media Course Group") who had not had such a course.

C. The data presented in Tables 14 through 20 show that a significant difference was not found between the "Media Course Group" and the "NO Media Course Group" regarding the null hypothesis that: There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those

secondary school teachers who had not had such a course regarding the importance of educational media competencies for secondary school teachers. For each of the seven competency areas of educational media tested regarding this null hypothesis, it was found, as presented in Tables 14 through 20, that the calculated value of Chi Square did not exceed the critical value of Chi Square at the .05 level with 4 degrees of freedom on a two-tailed test. Therefore, this null hypothesis was accepted since the secondary school teachers who had had a formal course in educational media ("Media Course Group") and their colleagues ("No Media Course Group") who had not had such a course both had similarly rated their views regarding the importance of educational media competencies for secondary school teachers. A large majority of the teachers of both groups rated the educational media competencies as having great importance and very great importance for secondary school teachers.

D. A significant difference was not found to exist, as indicated in Table 21, regarding the null hypothesis that: There is no significant difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding academic approaches for the development of educational media competencies in future secondary school teachers. The data presented

in Table 21 regarding this null hypothesis show that the calculated value of Chi Square did not exceed the critical value of Chi Square at the .05 level with 7 degrees of freedom on a two-tailed test. Therefore, this null hypothesis was accepted since the secondary school teachers who had had a formal course in educational media ("Media Course Group") and their colleagues ("No Media Course Group") who had not had such a course both had similarly rated their views regarding the eight academic approaches for the development of educational media competencies in future secondary school teachers. The majority of secondary school teachers of both groups combined viewed a 3 credit course in educational media with the greatest frequency as their choice for an academic approach to develop educational media competencies in future secondary school teachers.

Conclusions

The following conclusions regarding New Jersey public secondary school teachers were judged to be supported by the findings of this study:

A. Secondary school teachers who had had a formal course in educational media as part of their professional training utilize educational media more frequently than secondary school teachers who had not had a formal course in educational media as part of their professional

training.

B. Secondary school teachers who had had a formal course in educational media as part of their professional training view their preparation in the area of educational media with greater adequacy than secondary school teachers who had not had a formal course in educational media as part of their professional training.

C. Educational media competencies for secondary school teachers are considered to be important by secondary school teachers who had had a formal course in educational media as part of their professional training and by secondary school teachers who had not had a formal course in educational media as part of their professional training.

D. Secondary school teachers who had had a formal course in educational media as part of their professional training combined with the secondary school teachers who had not had such a course as part of their professional training view a 3 credit course in educational media as the best academic approach for developing educational media competencies in future secondary school teachers.

Chapter 5

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

Summary

In an effort to obtain evidence that could be used to improve the preparation of secondary education students in the area of educational media at Trenton State College, this study sought answers to the following four questions regarding secondary school teachers in the public schools of the State of New Jersey:

A. Is there a difference in the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course?

B. Is there a difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding the adequacy of their professional preparation in educational media?

C. Is there a difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and

those secondary school teachers who had not had such a course regarding the importance of educational media competencies for secondary school teachers?

D. Is there a difference in the views held by secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course regarding academic approaches for the development of educational media competencies in future secondary school teachers?

Four null hypotheses corresponding to these four questions were formulated and tested according to two independent variables and four dependent variables. The independent variables were: (1) a formal course in educational media as part of the teachers' professional preparation, and (2) no formal course in educational media as part of the teachers' professional preparation. The dependent variables were: (1) the teachers' frequency of educational media utilization, (2) the teachers' views regarding the adequacy of their professional preparation in educational media, (3) the teachers' views regarding the importance of educational media competencies for secondary school teachers, and (4) the teachers' views regarding the academic approaches for the development of educational media competencies in future secondary school teachers.

Through the use of a five-part questionnaire, data were gathered from 569 public secondary school teachers

throughout the 21 counties of New Jersey. The data were treated statistically through the use of a t-Test and three Chi Square Tests.

The results of these statistical tests showed the following findings:

A. A significant difference at the .001 level existed regarding the frequency of educational media utilization between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course. The secondary school teachers who had had a formal course in educational media utilized educational media at a frequency rate significantly higher than that of those secondary school teachers who had not had such a course.

B. A significant difference at the .001 level existed regarding the adequacy of professional preparation views between secondary school teachers who had had a formal course in educational media as part of their professional training and those secondary school teachers who had not had such a course. The secondary school teachers who had had a formal course in educational media rated the adequacy of their professional preparation in educational media significantly higher than their colleagues who had not had such a course.

C. No significant difference existed between the secondary school teachers who had had a formal course in educational

media and those secondary school teachers who had not had such a course regarding their views of the importance of educational media competencies for secondary school teachers. A large majority of the teachers of both groups rated the educational media competencies for secondary school teachers as having great importance and very great importance for secondary school teachers.

D. No significant difference existed between the secondary school teachers who had had a formal course in educational media and those secondary school teachers who had not had such a course regarding their views of academic approaches for the development of educational media competencies in future secondary school teachers. From eight academic approaches, the majority of the secondary school teachers of both groups combined viewed a 3 credit course in educational media as their choice for an academic approach to develop educational media competencies in future secondary school teachers.

Implications

The results of this study have the following significant implications with regard to the preparation of secondary education teachers in the area of educational media at Trenton State College and other colleges and universities in the State of New Jersey:

A. Secondary education students who do not receive a formal course in educational media as part of their professional

training are not being prepared adequately in the area of educational media by the institutions that offer teacher preparation programs in secondary education.

B. Adequacy in the preparation of secondary education students in the area of educational media could be achieved by the institutions that offer secondary education teacher preparation programs if they required their secondary education students to take a formal 3 credit course in educational media prior to graduation.

C. Since secondary school teachers in the public secondary schools of New Jersey consider preparation in the area of educational media as an important part of the professional training of secondary school teachers, the institutions that offer teacher preparation programs in secondary education should also place importance in this area of teacher training.

Recommendations

On the basis of the results and conclusions of this study, the following recommendations are proposed:

A. That Trenton State College and other institutions of higher education in New Jersey that offer teacher preparation programs in secondary education provide their students with formal preservice preparation in educational media and that a 3 credit course in educational media be employed as the academic approach for such preparation.

B. That the New Jersey State Department of Higher Education and its Division of Teacher Education and Certification include a formal course in educational media as part of the certification requirements for secondary school teachers.

C. That secondary school teachers in the State of New Jersey who have not had a course in educational media take a formal course in the field as part of their professional enrichment and continuing education.

D. That the principals for secondary schools in the State of New Jersey provide enrichment workshops in educational media for their teachers on an annual basis.

Although the results of this study can be generalized with some degree of validity to all secondary school teachers in the State of New Jersey and other states, the following recommendations regarding further study are proposed:

A. That a similar study be carried out regarding elementary school teachers in the State of New Jersey.

B. That a similar study be carried out regarding private and parochial school teachers at both the elementary and secondary school levels in the State of New Jersey.

C. That a similar study be carried out in other states that have no requirement for a formal course in educational media for secondary school teachers.

BIBLIOGRAPHY

Aquino, Charles C. "A Study to Determine Educators' Attitudes Toward Audiovisual Instruction Following Study in That Area." Unpublished Doctoral dissertation, Syracuse University, 1968.

_____. "Teacher Attitudes Toward Audiovisual Instruction as They are Influenced by Selected Factors Within Teaching Environments," AV Communication Review, XVII (1970), 187-195.

_____. "Teacher Attitudes to Media Teaching Environments," British Journal of Educational Technology, V (January, 1974), 72-78.

Arterbury, Elvis Hugh. "Teacher Utilization of Media Services Provided by the Regional Educational Service Centers in Texas." Unpublished Doctoral dissertation, East Texas State University, 1971.

Basic Guidelines for Media and Technology in Teacher Education. Association for Educational Communications and Technology, Washington, D. C., 1971.

Berdie, Douglas and John F. Anderson. Questionnaires: Design and Use. Metuchen, New Jersey: The Scarecrow Press, 1974.

Brookens, Lyle Kenneth. "An Exploratory Study of Media Instruction of Preservice and Inservice Teachers at Oklahoma State University Based on an Analysis of Their Media Competency and Utilization." Unpublished Doctoral dissertation, Oklahoma State University, 1970.

Busse, Norman Lee. "Media Competencies and How They Relate to Media Utilization and Media Values of Elementary Teachers in Minneapolis Public Schools." Unpublished Doctoral dissertation, The University of Nebraska-Lincoln, 1975.

Cabeceiras, James. "Observed Differences in Teacher Verbal Behavior When Using and Not Using the Overhead Projector," AV Communication Review, XX (1972), 271-280.

Chance, C. W. Experimentation in the Adaption of the Overhead Projector Utilizing 200 Transparencies and 800 Overlays in Teaching Engineering Descriptive Geometry Curriculum. U.S.O.E. Project 243, University Microfilm Publication Number 61-3610, Washing, D. C., 1960.

Directory of Approved New Jersey Secondary Schools-Secondary School Bulletin. New Jersey State Department of Education, Division of Curriculum and Instruction, Trenton, New Jersey, 1976.

Ford, Margie D. "An Exploratory Study of Media Competencies as Perceived by 1973 Teacher Education Graduates From The University of Oklahoma and Other Selected Teacher Education Institutions in Oklahoma." Unpublished Doctoral dissertation, The University of Oklahoma, 1974.

Good, Carter V. Dictionary of Education. New York: McGraw-Hill, 1973.

Haselwood, Eldon L. "An Analysis of the Media Competencies of College of Education Student Teachers at the University of Nebraska at Omaha." Unpublished Doctoral dissertation, University of Nebraska-Lincoln, 1972.

Jenkins, David Morris. "An Investigation of Teacher Attitudes Toward Educational Media When Related to a Basic Course in Educational Media." Unpublished Doctoral dissertation, University of Southern Mississippi, 1972.

Jones, V. "Attitude Changes in an N.D.E.A. Institute," Personnel and Guidance Journal, XLII (1963), 387-342.

Kelley, Gaylen B. "A Study of Teacher Attitudes Toward Audio-visual Materials," Educational Screen and Audiovisual Guide, XXXIX (March, 1960), 119-121.

Kennard, Albert L. "Media Competency of Teachers in Relation to the Quality of the Educational Media Programs in Teacher Training Institutions: A Study of Selected Louisiana Public Institutions and Graduates." Unpublished Doctoral dissertation, The University of Oklahoma, 1973.

Lawrence, Herbert Hall. "The Development of a Model Media Course for the Professional Preparation of Elementary and Secondary Teachers in Arkansas." Unpublished Doctoral dissertation, University of Arkansas, 1969.

Lewis, Edward Eugene. "A Study to Determine Teacher Perceptions in Relation to Educational Media." Unpublished Doctoral dissertation, Texas Tech University, 1969.

Mars, Walter J. and Clarence O. Bergeson. "A.E.C.T. Guidelines and Teacher Preparation," Audiovisual Instruction, XV (November, 1970), 30-31.

McMahan, Marie. "A Challenge: The Systems Approach in Development of Media Competencies," Audiovisual Instruction, XII (December, 1967), 1060-1063.

Meierhenry, W. C. ed. Media Competencies for Teachers. National Defense Act Title VII, United States Office of Education Contract Number 5-0730-2-12-6, Lincoln, Nebraska: University of Nebraska, 1966.

_____. "Media Competencies for Teachers," Audiovisual Instruction, XIV (January, 1969), 45-46.

Miller, Morris and Jerome Colligan. "A Study of the Effectiveness of the Use of the Overhead Projector as a Utilization Tool in First-Year Bookkeeping," AV Communication Review, XVI (1968), 446.

Moldstad, John. "Summary of Audiovisual Research," Audiovisual Instruction, IX (September, 1964), 492-497.

_____. "Selective Review of Research Studies Showing Media Effectiveness: A Primer for Media Directors," AV Communication Review, XXII (1974), 387-407.

Munger, P., R. Myers, and D. Brown. "Guidance Institutes and the Persistence of Attitudes," Personnel and Guidance Journal, XLI (1963), 415-419.

National Education Association Research Division. "Teacher Opinion Poll on Teacher Preparation," N.E.A. Journal, LII (1963), 34.

Nelson, Courtnay. "Effectiveness of Sound Motion Pictures in Teaching a Unit on Sulphur in High School Chemistry," School Science and Mathematics, LII (1952), 8-10.

Nie, Morman, C. H. Bent, and C. Hadlai Hull. Statistical Package for the Social Sciences-University of Chicago. New York, New York: McGraw-Hill, 1970.

Oppenheim, A. H. Questionnaire Design and Attitude Measurement. New York, New York: Basic Books, 1966.

Pula, Fred John. "Teacher Education and Media: We're Winning the Battle?" Audiovisual Instruction, XIV (January, 1969), 72-73.

Recommended Standards for Teacher Education. The American Association of Colleges for Teacher Education, Washington, D. C., 1970

Report of the President's Ad Hoc Committee on Program Priorities and Instructional Load by Level. Trenton State College, Trenton, New Jersey, 1975.

Romano, Francis A. and Joseph Spiecker. "Media Competencies for Secondary School Teachers," Phi Delta Kappan, LVII (September, 1975), 54+.

Rulon, P. J. The Sound Motion Picture in Science Teaching. Cambridge, Massachusetts: Harvard University Press, 1933.

Runyon, R. P. and A. Haber. Fundamentals of Behavioral Statistics. Reading, Massachusetts: Addison-Wesley Publishing Company, 1971.

Saettler, Paul. "Instructional Technology: Some Concerns and Desiderata," AV Communication Review, XVII (1969), 357-367.

Salley, Homer E. "Ohio Survey," Audiovisual Instruction, X (1965), 566-567.

Smith, William R. "Influence of a Methods Course on Teacher Use of Audiovisual Materials," Improving College and University Teaching, XX (1972), 145+.

Stanchfield, Jo M. "The Teacher's Role in Educational Technology," Educational Technology, XIV (August, 1974), 46-49.

Standards for Accreditation of Teacher Education. National Council for Accreditation of Teacher Education, Washington, D. C., 1972.

Streeter, Edqard C. "Teacher Competency and Classroom Use of Educational Media," Audiovisual Instruction, XIV (January, 1969), 60-62.

Theda, Kenneth Paul. "The Relationship of Audiovisual Materials, Equipment and Technique Utilization to Perceived Instructional Effectiveness of Teachers of Educable Mentally Retarded Children." Unpublished Doctoral dissertation, Texas Tech University, 1969.

Wendt, P. R. and G. K. Butts. A Report of an Experiment in the Acceleration of Teaching Tenth-Grade World History With the Help of an Integrated Series of Films. Carbondale, Illinois: General Publications, 1960.

Wheeler, R. C. "Wisconsin Survey," Audiovisual Instruction, X (September, 1965), 568-571.

APPENDIX A

TRENTON STATE COLLEGE

September 15, 1976

_____, Principal
_____
_____

Dear _____:

The Media Communication Science Department of Trenton State College is attempting to improve its curriculum offerings for students majoring in secondary education by doing a state wide study of secondary school teachers. The specific purpose of this study is to gather information from secondary school teachers conderning educational media that can be used to improve the preparation of future secondary school teachers in the area of educational media. Therefore, I need your help by way of a few minutes of your time in order for the study to produce meaningful results that will benefit the preparation of future secondary school teachers.

I have enclosed questionnaires that are addressed to specific teachers by name within your school who were selected for participation in the study. I respectfully request your help by doing the following:

A. Please distribute the questionnaires to your teachers as identified by name on the address label with a request that they promptly complete the questionnaire and return it to you.

B. Please return all the questionnaires to me at one time in the enclosed self-addressed stamped envelope by September 25, 1976.

I cannot overemphasize the importance of receiving completed questionnaires from your teachers. It will only take from ten to fifteen minutes of their time to complete the questionnaire, and their contribution to this study is vital. Therefore, I urgently request your help and the help of your teachers in this study. If you have any questions, please call me at (609) 771-2318.

Thank you in advance for your help in this matter.

Sincerely,

Francis A Romano, Jr.

Francis A. Romano, Jr.
Associate Professor
Media Communication Science
Department

P.S. Attached is a letter of endorsement for the study from Dr. Clayton Brower, President of Trenton State College.

Trenton State College, Trenton, New Jersey 08625

APPENDIX B

TRENTON STATE COLLEGE 97

September 15, 1976

_____, Principal
_____
_____

Dear _____:

This letter is to inform you of my endorsement of Professor Romano's study. I have discussed the nature and purpose of the study with Professor Romano, and I believe that the study will be of great value to the improvement of the secondary education program in the area of educational media at Trenton State College. There is reason to believe that the study will also be beneficial to teacher education programs at other institutions of higher education throughout the State of New Jersey, and for this reason, the results of the study will be shared with other institutions that have teacher education programs.

Our continual efforts to improve our programs for the development of future secondary and elementary teachers depends extensively on the successful completion of such studies. Therefore, I shall greatly appreciate your assistance and the assistance of your teachers in this study as requested by Professor Romano.

Thank you in advance for your help.

Cordially,

Clayton E. Brower

Clayton E. Brower
President

Trenton State College, Trenton, New Jersey 08625

APPENDIX C

TRENTON STATE COLLEGE 98

September 15, 1976

Dear Teacher:

I need your help. The Media Communication Science Department of Trenton State College is attempting to improve its curriculum offerings for students majoring in secondary education. Too often in the past, such curriculum changes were made in many areas of teacher education by people who were removed from the real situation. As one who is presently teaching in the secondary school, I believe you can provide the information that can be used to best serve the needs of future secondary school teachers in the area of their educational media teacher training. Therefore, I have attached a short questionnaire that will take ten to fifteen minutes of your time to complete. The questionnaire was designed to require as little of your time as possible since I realize that you are busy with your professional and personal responsibilities.

Since situations may differ greatly, and since we wish the results of this survey to be as accurate as possible, I cannot overemphasize the importance of receiving your completed questionnaire. Your contribution to this study is vital. Therefore, I urgently request your participation in the study by promptly completing and returning the questionnaire to your principal who will return all the questionnaires from your school to me at one time. If you have any questions, please call me at (609) 771-2318.

I thank you in advance for your time and cooperation.

Sincerely,

Francis A. Romano, Jr.

Francis A. Romano, Jr.
Associate Professor
Media Communication Science
Department

P.S. A NOTE OF CONFIDENTIALITY: A vital concern of this study is the importance of confidentiality. You will notice a code number on your questionnaire. This code number will be used to facilitate our follow-up techniques and to prevent you from receiving bothersome reminder letters and telephone calls. At no time will questionnaires be identified by respondent.

Trenton State College, Trenton, New Jersey 08625

EDUCATIONAL MEDIA SURVEY QUESTIONNAIRE

Media Communication Science Department
Trenton State College
Trenton, N. J. 08625

DIRECTIONS: Please indicate your response for each question in this section by placing a CHECK MARK "✓" in the appropriate blank and by placing the NUMBER OF YEARS in the blank when indicated.

A. Did you complete a course for credit in educational media (audiovisual education) as part of your teacher training? 1._____YES 2._____NO

B. What is the main subject area that you teach? (Check One)

1._____ART
2._____BIOLOGY
3._____BUSINESS
4._____CHEMISTRY
5._____ENGLISH/LANGUAGES
6._____GEOGRAPHY
7._____HEALTH/PHYSICAL EDUCATION
8._____HISTORY
9._____INDUSTRIAL EDUCATION
10._____MATHEMATICS
11._____MUSIC
12._____PHYSICS
13._____POLITICAL SCIENCE
14._____SOCIOLOGY
15._____OTHER

C. What sex are you? 1._____MALE 2._____FEMALE

D. How many years have you been teaching? _____YEARS

E. What is your age as of your last birthday? _____YEARS

DIRECTIONS: For each item listed below in this section, please place in the blank the NUMBER OF TIMES you used the educational media approaches, techniques, or devices described by the item in your teaching during the past academic year (1975-76). If none, place a ZERO "0" in the blank.

1. Prepared thermal (3M process) transparencies _____TIMES
2. Prepared color-lift transparencies _____TIMES
3. Prepared diazo (ammonia process) transparencies _____TIMES
4. Prepared overlay transparencies _____TIMES
5. Set up and operated an overhead projector _____TIMES
6. Prepared materials for use with flannel boards or display boards _____TIMES
7. Prepared either wet or dry mounted pictures _____TIMES
8. Prepared laminated pictures _____TIMES
9. Set up and operated an opaque projector _____TIMES
10. Set up and operated a tape recorder _____TIMES

(PLEASE TURN TO NEXT PAGE FOR CONTINUATION OF THIS SECTION)

11. Prepared and used models or dioramas _____TIMES

12. Prepared and used programmed instruction materials _____TIMES

13. Set up and operated the Kodak Ektagraphic Visual (slide) maker _____TIMES

14. Prepared tape recordings _____TIMES

15. Prepared and used tape recording-photographic slide presentations _____TIMES

16. Prepared and used photographic slides _____TIMES

17. Set up and operated a 16mm motion picture projector _____TIMES

18. Set up and operated a filmstrip projector _____TIMES

19. Set up and operated an automatic slide projector _____TIMES

20. Selected, acquired and used materials from one or more free sources _____TIMES

21. Set up and operated a cartridge loading 8mm motion picture projector _____TIMES

22. Set up and operated a still camera _____TIMES

23. Set up and operated a motion picture camera _____TIMES

DIRECTIONS: In this section, please CIRCLE THE RATING SCALE NUMBER that best represents your view regarding the degree of adequacy with which each of the seven educational media competencies listed below was provided to you by your teacher training program. The rating scale to be used is as follows:

5-extremely adequate
4-very adequate
3-adequate
2-very inadequate
1-extremely inadequate

1. Knowledge of a wide variety of instructional media available in the teacher's curricular specialization	1	2	3	4	5
2. Ability to select the media that possess the potential to meet the desired teacher-student objectives	1	2	3	4	5
3. Ability to prepare a variety of instructional media materials for use in the teaching-learning process	1	2	3	4	5
4. Ability to integrate media with the subject content	1	2	3	4	5
5. Knowledge of a variety of media utilization practices	1	2	3	4	5
6. Ability to operate the common educational media equipment	1	2	3	4	5
7. Ability to evaluate the effectiveness of educational media in terms of the teacher's objectives	1	2	3	4	5

(PLEASE TURN TO NEXT PAGE)

DIRECTIONS: For each of the seven educational media competencies listed below in this section, please CIRCLE THE RATING SCALE NUMBER that best represents your view regarding its importance for secondary school teachers. The rating scale to be used is as follows:

5-of very great importance
4-of great importance
3-of some importance
2-of limited importance
1-of no importance

1. Knowledge of a wide variety of instructional media available in the teacher's curricular specialization	1	2	3	4	5
2. Ability to select the media that possess the potential to meet the desired teacher-student objectives	1	2	3	4	5
3. Ability to prepare a variety of instructional media materials for use in the teaching-learning process	1	2	3	4	5
4. Ability to integrate media with the subject content	1	2	3	4	5
5. Knowledge of a variety of media utilization practices	1	2	3	4	5
6. Ability to operate the common educational media equipment	1	2	3	4	5
7. Ability to evaluate the effectiveness of educational media in terms of the teacher's objectives	1	2	3	4	5

DIRECTIONS: Below are listed eight academic approaches that could be used for the development of educational media competencies in future secondary school teachers. Please place a CHECK MARK "✓" in the blank opposite the ONE ACADEMIC APPROACH you view as best for the development of educational media competencies in future secondary school teachers.

1._____A 3-credit course in educational media

2._____A 2-credit course in educational media

3._____A 1-credit course in educational media

4._____Media competencies integrated with general education methods courses

5._____Media competencies integrated with academic specialty courses

6._____Media competencies integrated with student teaching programs

7._____Media competencies developed through a self-instructional program administered by the college

8._____Media competencies developed through inservice programs administered by the secondary school after graduation and upon employment

---

END OF QUESTIONNAIRE
PLEASE RETURN TO YOUR PRINCIPAL FOR MAILING
THANK YOU